ABSTRACT

The invention provides a crosslinkable aromatic resin having a protonic acid group and a crosslinkable group, suitable for electrolytic membranes and binders used in fuel cells, etc., and electrolytic polymer membranes, binders and fuel cells using the resin. The crosslinkable aromatic resin has a crosslinkable group, which is not derived from the protonic acid group and can form a polymer network without any elimination component. This resin exhibits excellent ion conductivity, heat resistance, water resistance, adhesion property and low methanol permeability. Preferably, the crosslinkable group is composed of a C_1 to C_{10} alkyl group directly bonded to the aromatic ring and/or an alkylene group having 1 to 3 carbon atoms in the main chain in which at least one carbon atom directly bonded to the aromatic ring bonds to hydrogen, and a carbonyl group, or a carbon-carbon double bond or triple bond. The aromatic resins such as aromatic polyethers, aromatic polyamides, aromatic polyimides, aromatic polyamideimides, aromatic polyazoles, etc., which contain such a crosslinkable group, are preferred as the crosslinkable aromatic resins having a protonic acid group and a crosslinkable group.